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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/607,827	06/30/2000	Peter Schwarz	548.0011USU	2208

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EXAMINER	
STOCK JR, GORDON J	

ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H-A

Office Action Summary	Application No.	Applicant(s)	
	09/607,827	SCHWARZ ET AL.	
	Examiner	Art Unit	
	Gordon J. Stock	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *39-42,44-58 and 60-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *39-42,44-58 and 60-68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 June 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 9, 2005 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 39-42, 44-55, 65, and 66** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for **claim 39**, the phrase "arranged between said light diode and/or said photosensor" is indefinite, for it is unclear as to what other object the filter is arranged between when referring to "between said light diode or said photosensor." **Claims 40-42, 44-55, 65, and 66** are rejected for being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. **Claims 39-42, 44, 45, 49, 50, 52, 54, 56, 58, 60, 64, 66, and 68** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Steenhoek (4,917,495)—previously cited** in view of **Weber et al. (5,268,749)-previously cited.**

As for **claims 39-42, 44, 45, 49, 50, 52, 54, 56, 58, 60, and 64**, Steenhoek in a portable colorimeter discloses the following: a halogen source at a first predetermined angle to the surface, said emitted light having a light intensity over the entire visible spectral range (Figs. 1 and 9); a photosensor aligned at a second predetermined angle to the surface and generating a signal based on reflected light (Fig. 1; 18); filters arranged between light diode and/or photosensors, blue and red filters (col. 6, lines 55-65) and the system comprises daylight spectra (col. 8, lines 1-15) and the system utilizes a sensitivity of the human eye (col. 7, lines 65-69). In addition, Steenhoek suggests that colorimetric systems with filters wish to have an aggregate spectra of light diode and photosensor and filter correspond to daylight spectrum and eye sensitivity if the illuminant has a daylight spectrum (col. 4, lines 58-69). Steenhoek discloses a controller to derive a characteristic (Fig. 2). As for gloss being determined, the system is angled at the specular angle of 45 degrees (col. 5, lines 35-50). Also three characteristics are found (col. 9, lines 10-16) which are perceptual color values (col. 4, lines 45-50). Three light sources, three halogen lamps, are used (Fig. 1) and a plurality of photosensors that are at least three elements are adjacent to each other (Fig. 1, 18; Fig. 2, 18). The angles used are the following: 0, -30, and 65 degrees (col. 5, lines 35-50). In addition, color temperature is controlled and corrected and a temperature monitor is used (col. 6,lines 65-67; col. 7, lines 1-5 and lines 40-49). As for relative movement, to change between twelve standard ceramic tiles (col. 9, lines 23-35), movement must be performed.

As for a diode having intensity over the entire visible range and a second diode, Steenhoek is silent. However, a diode having intensity over the entire visible range is a white light source. And halogen sources are also white light sources. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to substitute the three halogen sources with three white diodes, for they are both functionally equivalent as white light sources.

However, Steenhoek is silent concerning a scatter disk arrangement. Weber in an apparatus for providing uniform illumination teaches using a scatter disk, a diffuser in front of annular stop, to illuminate a sample plane uniformly (col. 10, lines 35-50). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to use a diffuser in order to uniformly illuminate the sample.

As for **claims 66 and 68**, Steenhoek in view of Weber discloses everything as above (see claims 39 and 56). Steenhoek does not explicitly state that the angles of the light sources do not vary over time. However, he suggests it, for he states that the predetermined angles, -30 degrees, 0 degrees, and 65 degrees, of the light sources are optimal angles to give maximum color information with minimal measurement effort (col. 6, lines 45-50; col. 5, lines 28-45). It would be obvious to one of ordinary skill in the art at the time the invention was made to have the predetermined angles not vary in time in order to guarantee accurate color measurements with maximum color information.

6. **Claims 46-48 and 61-63** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Steenhoek (4,917,495)—previously cited** in view of **Weber et al. (5,268,749)—previously cited** further in view of **Ohkubo (5,619,427)—previously cited.**

As for **claims 46-48 and 61-63,** Steenhoek in view of Weber discloses everything as above (see **claims 39 and 56** above). In addition, Steenhoek discloses receiving perceptual values from color coordinates (col. 4, lines 1-45). He is silent concerning a light pattern. Ohkubo in a color conversion method teaches using a light/dark edge grid pattern in order to get color coordinates (Fig. 4; col. 6, lines 35-50). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have a grid like pattern in order to determine stimulus signal from optical signals.

7. **Claim 51** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Steenhoek (4,917,495)—previously cited** in view of **Weber et al. (5,268,749)—previously cited** further in view of **Klenk et al. (4,918,321)—previously cited.**

As to **claim 51**, Steenhoek in view of Weber discloses everything as above (see **claim 39** above). However, Steenhoek is silent concerning emitting a strip of light perpendicular to the direction of propagation. Klenk in a reflected light scanning method teaches using strips of light to illuminate surface in order to better profile matt surfaces (col. 1, lines 1-15 and lines 53-68). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to emit strips of light in order to better profile matt surfaces.

8. **Claim 53** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Steenhoek (4,917,495)—previously cited** in view of **Weber et al. (5,268,749)—previously cited** further in view of **Lex (5,596,412)—previously cited.**

As to **claim 53**, Steenhoek in view of Weber discloses everything as above (see **claim 39)**. However, Steenhoek does not teach a measurement wheel positioned on surface. Lex in a device for physiological assessment of reflective surfaces teaches using a measurement wheel

coupled to a rotating angle output device in order to determine the exact geometric relationship of the measuring points on the surface (col. 2, lines 55-64; col. 6, lines 55-67; col. 7, lines 1-30). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the system comprise a measurement wheel coupled to a rotating angle output device in order to determine the exact geometric relationship of the measuring points on the surface being studied.

9. **Claims 55 and 57** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Steenhoek (4,917,495)—previously cited** in view of **Weber et al. (5,268,749)—previously cited** further in view of the applicant's disclosure of prior art.

As for **claims 55 and 57**, Steenhoek in view of Weber discloses everything as above (see **claim 39 and 56**). As for the measuring cycle, Steenhoek is silent concerning the measurement cycle being less than .2 seconds. However, the applicant's disclosure teaches prior art of a measurement cycle taking less than .2 seconds (page 5, line 27). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the measurement cycle be less than .2 seconds, for measurement cycles with light emitting diodes are typically less than .2 seconds in order to shorten the time it takes to measure samples.

10. **Claims 65 and 67** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Steenhoek (4,917,495)-previously cited** in view of **Weber et al. (5,268,749)—previously cited** further in view of **Chen et al. (6,163,038)—previously cited.**

As for **claims 65 and 67**, Steenhoek in view of Weber discloses everything as above (see **claims 39 and 56**). In addition, Steenhoek discloses the light emitting members, filaments, of the halogen sources are at a precisely defined position within the light source that

defines the light path to the sample surface (three lines bisecting lamps through filaments and defining 65 degrees and –30 degrees in Fig. 1). Steenhoek does not explicitly state that the defined position does not vary over time. However, he suggests it, for he states that the predetermined angles, -30 degrees, 0 degrees, and 65 degrees, of the light sources are optimal angles to give maximum color information with minimal measurement effort (col. 6, lines 45-50; col. 5, lines 28-45). It would be obvious to one of ordinary skill in the art at the time the invention was made to have the light emitting member's defined position not vary in time in order to guarantee accurate color measurements with maximum color information. However, as for a light diode comprising a light emitting member with a precisely defined position that does not vary over time, he is silent. However, Chen in a white led teaches that light emitting members are at a precise position to ensure white light emission through proper overlap of emitting layers (Fig. 8, 64-65; col. 5, lines 30-55). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the white led have a light emitting member at a precise location within the light diode that does not vary in time in order to have consistent overlap of wavelengths for constant white light emission.

Response to Arguments

11. Applicant's arguments filed September 9, 2005 have been fully considered but they are not persuasive. Specifically, the argument that there is no motivation to combine the teachings of Steenhoek and Weber for Steenhoek has three illumination angles and Weber provides uniform illumination and that Weber teaches away from Steenhoek, Examiner disagrees for Weber and Steenhoek are both colorimeters (Steenhoek: col. 2, lines 15-20; Weber: col. 3, lines 5-10); wherein, Weber provides uniform illumination for the 45 degrees: 0 degrees configuration (col.

4, lines 15-20) and Steenhoek has zero degree illumination angle (Fig. 1: 11b). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to use a diffuser in order to uniformly illuminate the sample in at least the zero degree illumination angle for colorimetry. In evidence **Schulkind (3,580,683)** discloses in a colorimeter using a scatter disk in the zero angle illumination angle for uniform illumination (Fig. 1: 14) and **Berends (5,377,000)** discloses in a glossmeter/spectrophotometer/colorimeter a scatter disk for uniform zero angle illumination (Fig. 5: 90). In addition, in regards to the other illumination angles, Weber discloses that the illuminator may be of different illumination angles (col. 4, lines 20-30). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to use a diffuser in order to uniformly illuminate the sample at other angles for surface inspection.

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and

2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: **(571) 273-8300**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431. The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gs
January 19, 2006

Gregory J. Toatley, Jr.
Supervisory Patent Examiner
Art Unit 2877